UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,286	10/14/2005	Richard Charles Clark	WRAY.CLARKR.PT1	8640

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EXAMINER
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ART UNIT	PAPER NUMBER
4153	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/553,286	CLARK, RICHARD CHARLES
		Examiner	Art Unit	
		Christian Y. Jang	4153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _23 January 2006_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-4,8,12-19 and 21-27_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-4,8,12-19 and 21-27_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _14 October 2005_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _10/14/05_.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.   Claims 18, 25, and 27 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

3.   <u>Claim 18</u> recites the limitation "said transition point" in line 2. There is insufficient

antecedent basis for this limitation in the claim.

4.   <u>Claim 25</u> recites the limitation "said transition point" in line 2. There is insufficient

antecedent basis for this limitation in the claim.

5.   <u>Regards to Claim 27</u>, applicant claims the sleep management apparatus wherein

"said one or more parameters detected is a significant change in average heart rate,

being sustained rather than transient or temporary." However, applicant's definition of

significant, which is defined as "sustained," does not further clearly define the word

significant. Since no mathematical references or limitations are given to define

"significant", applicant's use of the word significant is highly subjective. Any change in

the heart rate can thus be subjectively claimed as significant.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-4, 8, 12-17, 19, 21-24, 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Youdenko (US 2002/0080035) in view of Lidow (USP #4,228,806).

8.   Regarding Claim 1, Youdenko teaches a short sleep/nap management apparatus

comprising sensor means to detect one or more physiological parameters associated

with a transition in sleep stages from wakefulness (Youdenko, p1, [0008], parameters

may be measured which are representative of the user's stage of sleep), processing

means to process said parameters to determine when said transition is reached

(Youdenko, p3, [0025], implemented by means of hardware).

Youdenko does not teach a processing means to start a timer to run for a

predetermined period, and alarm means to actuate at the end of said predetermined

period. However, Lidow teaches an alarm that is inhibited if the subject is in deep-sleep

phase throughout the alarm time interval (read: timer) and actuates at the end of the

time interval(Lidow, Abstract). It would have been obvious to one of ordinary skill to

modify the sleep management apparatus as taught by Youdenko with the processing

means to start a timer to run for a predetermined period and alarm means to actuate at

the end of said predetermined as taught by Lidow in order to delay waking the user until

the user reaches a point in sleep where it would be most favorable to awaken.

9.   Regarding Claim 2, Youdenko teaches a short sleep/nap management apparatus

comprising sensor means to detect one or more physiological parameters associated

with a transition in sleep stages from wakefulness (Youdenko, p1, [0008], parameters

may be measured which are representative of the user's stage of sleep), said transition

being any point in time from the onset of stage 1 or stage 2 sleep, to an event preceding

onset of stage 3 sleep (Youdenko, p2, [0019], can chose from five states: REM, ...

stage 1, ... stage2), processing means to process said parameters to determine when

said transition is reached (Youdenko, p3, [0025], implemented by means of hardware).

It is noted that Youdenko's teachings allow the user to choose the state of sleep during

which the alarm actuates to wake the user, including sleep stages 1 and 2.

Youdenko does not teach starting a timer to run for a predetermined period, and

alarm means to actuate at the end of said predetermined period. The said limitations

are taught by Lidow as previously stated (Lidow, Abstract). It would have been obvious

to one of ordinary skill to modify Youdenko with Lidow's timer and alarm means to

awaken the user at the most favorable sleep stage.

10.   Regarding Claim 3, Lidow teaches a short sleep/nap management apparatus as

claimed in claim 1 wherein said predetermined period is user adjustable (Lidow, Column

3, Lines 11-13, a conventional alarm ... is then provided with means for setting an alarm

interval). It would have been obvious to one of ordinary skill in the art to modify

Youdenko with Lidow's user adjustable predetermined period of time to allow for further

user flexibility in the operation of the device.

11.   Regarding Claim 4, Lidow teaches a short sleep/nap management apparatus as

claimed in claim 1 wherein said sleep management apparatus includes a second timer

to run for a second predetermined period to an absolute time, wherein said alarm

means actuates at the end of said second predetermined period (Lidow, Column 3,

Lines 16-19, once the given time range has expired ... alarm is given regardless of

sleep stage of the patient). It would have been obvious to one of ordinary skill in the art

to modify Youdenko with Lidow's absolute timer so that the user is not inconvenienced

by waking up later than he/she must.

12.   Regarding Claim 8, Youdenko teaches a short sleep/nap management apparatus

as claimed in claim 1 wherein said sensor means senses heart/pulse rate (Youdenko,

p1, [0008], other body parameters may be measured, such as heart rate).

13.   Regarding Claim 12, Youdenko teaches a method of achieving a short sleep or

nap comprising detecting one or more physiological parameters associated with a

transition in sleep stages from wakefulness (Youdenko, p1, [0008], parameters may be measured which are representative of the user's stage of sleep). Youdenko does not teach a method of determining when said transition is reached and timing a predetermined period, and actuating alarm means at the end of said predetermined period. However, Lidow does teach the said limitation (Lidow, Abstract). It would have been obvious to one of ordinary skill in the art to modify Youdenko with Lidow's timer and alarm means to awaken the user at the most favorable sleep stage.

14.   Regarding Claim 13, Youdenko teach a method as claimed in claim 12, wherein said transition is any point in time from the onset of stage 1 or stage 2 sleep, to an event preceding onset of stage 3 sleep (Youdenko, p2, [0019], can chose from five states: REM, ... stage 1, ... stage2).

15.   Regarding Claim 14, Lidow teaches a method as claimed in claim 12 including providing for said predetermined period to be user adjustable (Lidow, Column 3, Lines 11-13, a conventional alarm ... is then provided with means for setting an alarm interval). It would have been obvious to one of ordinary skill in the art to modify Youdenko with Lidow's user adjustable predetermined period to allow for further user flexibility in the operation of the device.

16.   Regarding Claim 15, Lidow teaches a method as claimed in claim 12 including providing a second timer to run for a second predetermined period, wherein said alarm

means actuates at the end of said second predetermined period (Lidow, Column 3,

Lines 16-19, once the given time range has expired ... alarm is given regardless of

sleep stage of the patient). It would have been obvious to one of ordinary skill in the art

to modify Youdenko with Lidow's absolute timer so that the user is not inconvenienced

by waking up later than he/she must.

17.   Regarding Claim 16, Youdenko teaches a method as claimed in claim 12

wherein said transition is any point in time from the onset of stage 1 sleep, to an event

preceding onset of stage 2 sleep (Youdenko, p2, [0019], can chose from five states:

REM, ... stage 1).

18.   Regarding Claim 17, Youdenko teaches a method as claimed in claim 12 wherein

said transition is a point in time at or shortly after the onset of stage 1 sleep (Youdenko,

p2, [0019], can chose from five states: REM, ... stage 1).

19.   Regarding Claim 19, Youdenko teaches a method as claimed in claim 12

wherein the detecting of said transition utilizes sensor means to sense heart/pulse rate

(Youdenko, p1, [0008], other body parameters may be measured, such as heart rate).

20.   Regarding Claim 21, Lidow teaches a short sleep/nap management apparatus as

claimed in claim 2 wherein said predetermined period is user adjustable (Lidow, Column

3, Lines 11-13, a conventional alarm ... is then provided with means for setting an alarm

interval). It would have been obvious to one of ordinary skill in the art to modify

Youdenko with Lidow's user adjustable predetermined period to allow for further user

flexibility in the operation of the device.

21.   Regarding Claim 22, Lidow teaches a short sleep/nap management apparatus as

claimed in claim 2 wherein said sleep management apparatus includes a second timer

to run for a second predetermined period to an absolute time, wherein said alarm

means actuates at the end of said second predetermined period (Lidow, Column 3,

Lines 16-19, once the given time range has expired … alarm is given regardless of

sleep stage of the patient). It would have been obvious to one of ordinary skill in the art

to modify Youdenko with Lidow's absolute timer so that the user is not inconvenienced

by waking up later than he/she must.

22.   Regarding Claim 23, Youdenko teaches a short sleep/nap management

apparatus as claimed in claim 2 wherein said transition is any point in time from the

onset of stage 1 sleep, to an event preceding onset of stage 2 sleep (Youdenko, p2,

[0019], can chose from five states: REM, … stage 1).

23.   Regarding Claim 24, Youdenko teaches a short sleep/nap management

apparatus as claimed in claim 2 wherein said transition is a point in time at or shortly

after the onset of stage 1 sleep (Youdenko, p2, [0019], can chose from five states:

REM, ... stage 1).

24.   Regarding Claim 26, Youdenko teaches a short sleep/nap management

apparatus as claimed in claim 2 wherein said sensor means senses heart/pulse rate

(Youdenko, p1, [0008], other body parameters may be measured, such as heart rate).

Conclusion

25.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

a. Choi (US Patent #6791462) teaches an alarm system that detects sleep using

a measured heart pulse rate and sounds an alarm at a certain threshold.

b. Loree (US 2005/0154330) teaches a device which monitors a user's sleep

cycles and operates to sound an alarm to awaken the user at an optimal point within a

sleep cycle.

c. Raniere (US 2006/0106275) teaches a sleep efficiency monitor which monitors

sleep stages and provides sensory stimuli, including auditory signals.

d. Lee et al. (US 2007/0083079) teaches a method and apparatus for inducing

sound sleep and waking up the user.

e. Koyama (US Patent #5101831) teaches a system for discriminating sleep

states of the human body and to provide an awakening stimulus to the user.

f. Halyak (US Patent #5928133) teaches an apparatus for awakening the user at

certain brief periods, especially close to the beginning and end of REM.

g. Kanevsky et al. (US Patent #6928031) teaches a programmable alarm clock to

identify and wake a person during non-REM sleep patterns.

h. Hearne et al. (WO 91/16853A1) teaches a dream machine arranged to

awaken a sleeper experiencing a dream.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christian Y. Jang whose telephone number is 571-270-

3820. The examiner can normally be reached on Mon. - Thurs. (8AM-5PM) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gary Jackson can be reached on 571-272-4697. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. Y. J./   cJ
11/13/07

GARY JACKSON
SUPERVISORY PATENT EXAMINER